WHAT IS CLAIMED IS:

1. A process for detecting an increased risk of a fetal chromosomal abnormality which comprises separating α-fetoproteins present in a body fluid of a pregnant woman on the basis of the difference between or among their sugar chain structures, measuring one or more of α-fetoproteins having a specific sugar chain structure, and detecting the increased risk on the basis of a result of the measurement.

2. A process according to Claim 1, wherein the α-fetoproteins having a specific sugar chain structure are those having a bi-antennarly complex type sugar chain or a sugar chain formed by the conversion of said bi-antennarly complex type sugar chain.

3. A process according to Claim 1, wherein the α-fetoproteins having a specific sugar chain structure are those which can be separatated by use of a protein capable of recognizing a specific sugar chain of at least one of α-fetoproteins.

4. A process according to Claim 3, wherein the protein capable of recognizing a specific sugar chain is *Lens culinaris* agglutinin, erythroagglutinating phytohemagglutinin-E4 or concanavalin A.

5. A process according to Claim 1, wherein the chromosomal abnormality is an autosomal abnormality or a sex chromosomal abnormality.

6. A process according to Claim 1, wherein the body fluid is amniotic fluid, plasma or serum.

7. A process according to Claim 1, wherein the body fluid is collected from a pregnant woman in the 10 to 20 weeks of gestation.

8. A reagent for detecting an increased risk of a fetal chromosomal abnormality which comprises a protein capable of recognizing a specific sugar chain of at least one of α-fetoproteins and is used in the process of Claim 3.

9. A reagent according to Claim 8, wherein the specific sugar chain of α-fetoproteins is a bi-antennarly complex type sugar chain or a sugar chain formed by the conversion of said bi-antennarly complex type sugar chain.

10. A reagent according to Claim 8, wherein the protein capable of recognizing a specific sugar chain is *Lens culinaris* agglutinin, erythroagglutinating phytohemagglutinin-E4 or concanavalin A.

11. A reagent according to any one of Claim 8 to 10, wherein the chromosomal abnormality is an autosomal abnormality or a sex chromosomal abnormality.

12. A process for detecting an increased risk of a fetal chromosomal abnormality which comprises separating α-fetoproteins present in a body fluid of a pregnant woman on the basis of the difference between or among their sugar chain structures, measuring the proportion of one or more of the α-fetoproteins which have a specific sugar chain structure, relative to the total α-fetoproteins, and detecting the increased risk on the

basis of a result of the measurement.

13. A process according to Claim 12, wherein the α-fetoproteins having a specific sugar chain structure are those having a bi-antennarly complex type sugar chain or a sugar chain formed by the conversion of said bi-antennarly complex type sugar chain.

14. A process according to Claim 12, wherein the α-fetoproteins having a specific sugar chain structure are those which can be separated by use of a protein capable of ecognizing a specific sugar chain of at least one of α-fetoproteins.

15. A process according to Claim 14, wherein the protein capable of recognizing a specific sugar chain is *Lens culinaris* agglutinin, erythroagglutinating phytohemagglutinin-E4 or concanavalin A.

16. A process according to Claim 12, wherein the chromosomal abnormality is an autosomal abnormality or a sex chromosomal abnormality.

17. A process according to Claim 12, wherein the body fluid is amniotic fluid, plasma or serum.

18. A process according to Claim 12, wherein the body fluid is collected from a pregnant woman in the 10 to 20 weeks of gestation.

19. A kit for detecting an increased risk of a fetal chromosomal abnormality, which comprises (1) a lectin capable of recognizing a specific sugar chain of at least one of α-fetoproteins and (2) an anti-α-fetoprotein antibody.

20. A kit according to Claim 19, wherein the lectin is *Lens culinaris* agglutinin, erythroagglutinating phytohemagglutinin-E4 or concanavalin A.

21. A kit for detecting an increased risk of a fetal chromosomal abnormality which comprises (1) a lectin capable of recognizing a specific sugar chain of at least one of α-fetoproteins, (2) an anti-α-fetoprotein antibody capable of binding to all α-fetoproteins irrespective of whether the lectin binds to α-fetoproteins or not and (3) an anti-α-fetoprotein antibody having a low reactivity with an α-fetoprotein(s) having the lectin attached thereto but having a high reactivity with an α-fetoprotein(s) to which the lectin does not bind.

22. A kit according to Claim 21, wherein the lectin is *Lens culinaris* agglutinin, erythroagglutinating phytohemagglutinin-E4 or concanavalin A.